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**United States Patent** [19]**Havinga et al.**[11] **Patent Number:** **5,908,583**[45] **Date of Patent:** **Jun. 1, 1999**[54] **SEMICONDUCTOR POLYMER**

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[51] **Int. Cl.**<sup>6</sup> ..... **H01B 1/00**; H01B 1/12;  
C08W 3/20; C08W 69/00

[52] **U.S. Cl.** ..... **252/500**; 252/519.34; 524/609;  
524/612

[58] **Field of Search** ..... 252/500, 519.34;  
524/609, 612

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[57] **ABSTRACT**

The invention relates to a semiconducting polymer and a method of preparing a semiconducting polymer. The polymer in accordance with the invention has the repeating unit (—A—NH—B—S—), wherein A and B are conjugated groups. The polymer proves to be readily soluble already in customary organic solvents, without the groups A and B having been provided with saturated substituents, and, after doping, has an electric conductivity of approximately 1 S/cm. The method yields semiconducting polymers in accordance with the invention, which have a high molecular weight and few topological defects.

**11 Claims, 1 Drawing Sheet**(1) :X=CH<sub>3</sub>

(2) :X=Br

(3) :X=I

